

Application No.: 09/202,681

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**AMENDMENTS TO THE CLAIMS**

Please amend the claims as follows:

Please cancel claims 5 to 7, 13 to 17, 20, 21, 31 to 36 and 41 to 47, without prejudice or disclaimer.

This listing of claims will replace all prior versions, and listing, of claims in the application:

**Claim 1 (previously presented):** An isolated or recombinant polynucleotide selected from the group consisting of:

(a) a polynucleotide encoding a thermostable phosphatase comprising an amino acid sequence as set forth in SEQ ID NO: 28; and

(b) a polynucleotide which is complementary to the polynucleotide of (a).

**Claim 2 (currently amended):** An isolated or recombinant polynucleotide selected from the group consisting of:

(a) a polynucleotide sequence as set forth in SEQ ID NO: 19; and

(b) a sequence as set forth in SEQ ID NO: 19, where T can also be U; wherein the polynucleotide of (a) and (b) encode a polypeptide having phosphatase activity.

**Claim 3 (previously presented):** The isolated or recombinant polynucleotide of claims 1 or 2, wherein the polynucleotide comprises DNA.

**Claim 4 (previously presented):** The isolated or recombinant polynucleotide of claims 1 or 2 wherein the polynucleotide comprises RNA.

**Claims 5 to 7 (canceled)**

**Claim 8 (currently amended):** A process for producing a polypeptide comprising: expressing from the host cell of claim 53 ([7]) a polypeptide encoded by the polynucleotide.

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**Claim 9 (currently amended):** A process for producing a recombinant cell comprising: transforming or transfecting a cell with the vector of claim 48 [[6]] such that the cell expresses the polypeptide encoded by the polynucleotide.

**Claim 10 (currently amended):** An isolated or recombinant polypeptide having phosphatase activity comprising an amino acid sequence encoded by a polynucleotide which has at least 70% sequence identity to the amino acid sequence as set forth in claim 1 or claim 2 SEQ ID NO: 28.

**Claim 11 (currently amended):** An isolated or recombinant polypeptide having phosphatase activity enzyme comprising an amino acid sequence which has at least 70% sequence identity to the amino acid sequence as set forth in SEQ ID NO: 28 or an enzymatically active fragment thereof.

**Claims 12 to 17 (canceled)**

**Claim 18 (currently amended):** The isolated or recombinant [[A]] polypeptide comprising an enzymatically active fragment of the phosphatase of claim 10, wherein an [[the]] enzymatically active fragment is at least 30 amino acid residues in length.

**Claim 19 (currently amended):** The isolated or recombinant [[A]] polypeptide comprising an enzymatically active fragment of the phosphatase of claim 11, wherein the enzymatically active fragment is at least 30 amino acid residues in length.

**Claims 20 to 36 (canceled)**

**Claim 37 (previously presented):** The isolated or recombinant phosphatase of claim 10, wherein the phosphatase activity is an alkaline phosphatase activity.

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Claim 38 (currently amended): The isolated or recombinant polynucleotide of claim 1 or claim 2 [[14]], wherein the phosphatase activity is an alkaline phosphatase activity.

Claim 39 (currently amended): The isolated or recombinant polynucleotide of claim 1 or claim 2 [[14]], wherein the phosphatase activity is a phosphodiesterase activity.

Claim 40 (previously presented): A method for dephosphorylating a phosphorylated nucleic acid comprising contacting a phosphatase encoded by the polynucleotide of claim 10 with the phosphorylated nucleic acid.

Claims 41 to 47 (canceled)

Claim 48 (previously presented): A vector comprising the polynucleotide of claim 1 or claim 2.

Claim 49 (previously presented): A host cell comprising the vector of claim 48.

Claim 50 (currently amended): A process for producing a polypeptide comprising expressing from the host cell of claim 49 or claim 53 a polypeptide encoded by the polynucleotide.

Claim 51 (previously presented): A process for producing a recombinant cell comprising: transforming or transfecting a cell with the vector of claim 48 such that the cell expresses the polypeptide encoded by the polynucleotide.

Claim 52 (previously presented): A method for dephosphorylating a phosphorylated nucleic acid comprising contacting the phosphorylated nucleic acid with a phosphatase encoded by the isolated or recombinant of claim 1 or claim 2.

Claim 53 (new): A host cell comprising the polynucleotide of claim 1 or claim 2.

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Claim 54 (new): A host cell comprising the polypeptide of claim 10 or claim 11.

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